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ORGANIZATION OF THE MEDICOSANITARY SERVICE OF LOCAL ANTI-AIRCRAFT DEFENSE

Uchebnyk dlya meditsinskikh sester
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(The chapter "Organization of the Medicosanitary Service of Local Antiaircraft Defense" was written by S. M. Speranskaya.)

Article 497

The medicosanitary servicing of the population of the USSR under conditions of aircraft attack by the enemy is accomplished by all organs of public health in the system of the MPVO /mestnaya protivovozdushnaya oborona -- local antiaircraft defense/ with the active participation of the entire population, the interested departments and public organizations -- the Union of Red Cross and Red Crescent Societies of the USSR.

The medicosanitary service of the MPVO accomplishes 4 fundamental tasks:

- (1) it organizes the population and prepares it for problems of selfaid and mutual aid under MPVO conditions;
- (2) provides timely first aid and qualified medical aid to those who have been suffering;
- (3) accomplishes sanitary measures under MPVO conditions and sanitary inspection for the collective means of defense (shelters, covers, trenches, slit trenches, etc);
- (4) accomplishes measures pertaining to sanitary-chemical protection: it organizes sanitary treatment for those attacked with BOVs /poisonous substances used in combat/; decontamination of clothing contaminated with st. a. OVs, and of soft everyday equipment; determines BOVs in food products, in water, air, the ground, etc.

The medicosanitary service of the MPVO enters into the system of local PVO /antiaircraft defense/ of the city as one of the services. The medicosanitary service of the MPVO is organized on the basis of the entire existing system of public health. Hither are attracted the forces and means of other ministries and public organizations: the Red Cross and the Red Crescent Societies of the USSR and the entire population; special medicosanitary formations of the MPVO are created.

The head of the medicosanitary service of the local PVO is the director of the municipal division of public health. He directs the measures of the medicosanitary service of the MPVO of all institutions of the system of public health.

In cities with a rayonal division, the head of the medicosanitary service of the rayon is the director of the rayon public health section.

In the presence of division of municipal rayons into areas, a medicosanitary service of the area is organized. The head of the medicosanitary service of the area is the chief physician of the polyclinic or ambulatory.

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In industrial objectives the head of the medicosanitary service of the objective is the director of the health point (ambulatory) of the objective.

The head of the medicosanitary service of the city (rayon) is subordinated to the head of the MPVO of the area, to the head of the militia, and, in the nature of a special service, to the head of the medicosanitary service of the rayon.

The head of the medicosanitary service of the objective is subordinated to the head of the objective -- the director of enterprises, institutions, and, in the nature of a special service, -- to the head of the medicosanitary service of the rayon, city. The head of the medicosanitary service of the city (rayon) accomplishes direction of all sources and facilities of the medicosanitary service of the MPVO independently of the departments to which they belong.

The working apparatus of the head of the medicosanitary service of the city (rayon) is the apparatus of the municipal (rayon) public health division, the workers of which are used according to their specialty. In the apparatus of rayonal committees of the Societies of the Red Cross and the Red Crescent in cities which are points of PVO there is a PVO inspector who is a deputy of the heads of the medicosanitary service of the rayon for the direction of the work of the sanitary formations of the Red Cross and the Red Crescent Societies and for the organization of preparation of the population for sanitary-chemical protection.

In the individual areas the MPVO also has an authorized worker of the rayon committee of the Societies of the Red Cross or of the Red Crescent -- an MPVO assistant to the head of the medicosanitary service of the area.

The medicosanitary service of the MPVO, for rendering emergency treatment and treating casualties organizes:

- (1) sanitary teams of the groups of self defense, sanitary posts, sanitary detachments, medicosanitary companies, and medicosanitary platoons for rendering aid to casualties in the focus of attack and their removal from the focus to a safe zone;
- (2) detachments of medical first aid, present in the focus of attack for rendering first aid, leadership of those working in the focus of attack with sanitary formations, sorting and evacuation of casualties into stationary therapeutic institutions;
- (3) PPM /punkty pervoy meditsinskoy nomoshchi -- points of medical first aid/ which are set up in ambulatory institutions for rendering aid to the lightly wounded and those attacked with OV's who do not require hospitalization (PPMs do not serve those attacked with stable OV's);
- (4) SPM /stantsionarnyye punkty meditsinskoy nomoshchi -- stationary medical aid points/ which are set up on a base of polyclinics for rendering medical aid to so-called mixed forms of contamination with SOVs (contamination with SOVs, complicated by a wound, or wounds contaminated with SOVs);
- (5) SOP /stantsionarnyye obmyvochnyye punkty -- stationary decontamination points/, providing baths, for the mass prophylactic-sanitary treatment of those suspected of having been contaminated with, or subjected to, SOVs.

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(6) hospitals (divisions in ordinary hospitals) for the treatment of those subjected to OV's.

The rendering of medical aid in foci of attack is accomplished by medicosanitary formations -- medicosanitary commands, regular army sanitary teams, medicosanitary teams of the self-defense groups, sanitary posts, and mobile facilities of the medicosanitary service (quick aid of the local PVO and the municipal quick aid).

In the organization of work in foci of attack the following fundamental requirements are set:

- (1) the forces and facilities of the medicosanitary service of the local PVO must be quickly present in the focus of attack;
- (2) emergency medical first aid to the casualties is to be rendered at the focus of attack;
- (3) the casualties are to be sorted out and without delay evacuated from the focus of attack according to the through destination.

The medicosanitary teams of the self-defense groups, the sanitary posts, and the objective regular army sanitary teams found at the site are the first at the focus of attack.

Ordinarily, upon a VT vozdushnaya trevoga -- air raid alarm/ they assemble in the established assembly point. They obtain information through the ground observation posts and the protection-of-order posts concerning the presence of the casualties in the presence of a bomb explosion, the destruction of buildings, etc.

Immediately upon receipt of the information, without waiting for any supplementary authorization, they are included in the work, rapidly directing themselves toward the focus of attack to render there aid initially to all casualties without exception, and then also to take them out and carry them away from the focus of attack.

The first-aid detachments of the medicosanitary service unit of the local PVO, consisting of one physician and 2 secondary medical workers or of 2 sanitary team workers of the regular cadre area or rayon sanitary team move to the aid of the medicosanitary teams, the sanitary posts, the sanitary teams, and the medicosanitary commands by order of the head of the medicosanitary service of the rayon to the focus of attack. The number of such groups depends on the territory of the rayon and the density of population. They are detailed from the personnel of that therapeutic institution at which the group was organized. In order to ensure a round-the-clock tour of duty of such groups, from the moment when a position is first threatened, each therapeutic institution is organized into 2 first-aid detachments.

The first-aid detachment of the MPVO has transport for following into the focus of attack and for evacuation of the casualties from the focus of attack. For this purpose, transport of the therapeutic-prophylactic institutions is used in the first aid. In case of insufficiency of transport facilities, the necessary transport is registered by order of the head of the MPVO of the town. The first-aid detachment of the MPVO is outfitted with a store of medical equipment of the type of the municipal quick-aid station store with the addition of the necessary facilities for rendering first aid to those attacked with BOVs and with 3 sets of antichemical equipment for the personnel of the quick-aid group.

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As a rule, first-aid detachments of the MPVO are called out to the focus of attack at the order of the head of the medicosanitary service unit of the rayon or of the area; however when the first-aid detachment has become informed of the presence of a focus of attack, it goes out to the focus of attack independently, with subsequent notification of the head of the medicosanitary service unit of the uchastok (rayon).

In the focus of attack all forces and agents of the medicosanitary service are subordinated to the head of that first-aid detachment which was first present in the focus of attack. In an industrial objective all forces and agents are subordinated to the head of the medicosanitary service of the objective or to the medical worker detailed by him.

Delegated to the head of the first-aid detachment in the presence of work in the focus of attack is the direction of all forces and agents of the medicosanitary service, the sorting of casualties, the rendering to them of medical first aid, the organization of evacuation and the presentation of a report upon the completion of the work.

Delegated to the medicosanitary formations (sanitary posts, medicosanitary teams of the self-defense groups, the regular army sanitary teams, the medicosanitary commands) is the search for casualties, the rendering to them of premedical first aid, the carrying out and leading out of casualties from the focus of attack, their loading on evacuation transport and the accompanying of the evacuated, in case of necessity, to the therapeutic institution.

The evacuation of casualties is conducted directly to previously detailed therapeutic institutions, where the casualty can obtain complete and qualified medical aid.

In the presence of the arising of a focus of attack on the territory of an industrial objective, medical first aid to the casualties is rendered with the forces and facilities of the medicosanitary service of the objective, and, in case of necessity, the forces and agents of the medicosanitary service of the city or rayon are summoned there.

In the presence of the liquidation of the consequences of air raids on an industrial objective, located in a city, the casualties are evacuated to a stationary therapeutic institution.

The evacuation of casualties from foci of attack which have been formed on the territory of the objective, located within the limits of a city, is conducted to the stationary hospitals, which are being set up beyond the limits of the territory of the objective, and to the closest hospital.

The displacement of casualties to a hospital is conducted according to the plan of the head of the medicosanitary service of the MPVO of the city.

The medicosanitary service ordinarily has its own facilities for evacuation of casualties. If its own transport is not at the objective, then it is detailed for the objective by the head of the local PVO of the objective, and the detailed transport enters under the orders of the head of the medicosanitary service of the objective upon the VT signal.

The fundamental organization of the antichemical protection is:

(1) the obligatory taking cover upon the VT signal of the entire population in a gas shelter, bomb shelter, cover, trench, slit trench;

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(2) the providing the population with gas masks and gas casualty first-aid kits;

(3) the organized nature and discipline of the population for the fulfilling of the rules of antichemical protection in the presence of air raids;

(4) preparation of the medicosanitary forces and facilities for the rendering of medical aid to those contaminated with OV's;

(5) the preparation of self-defense groups for the organization of antichemical protection in dwellings and the rendering of medical first aid to casualties.

One of the most important measures in the organization of antichemical protection is the mass-explanatory work among the population for the familiarization with BOV's, with the measures of protection against them, and for the study of the obligatory measures which are being conducted in the settled points in all homes, institutions, enterprises, shops, etc.

Article 497a

The conduct of mass sanitary-defense measures in the system of the medicosanitary service of the MPVO rests on the organization of the Red Cross and the Red Crescent.

The committees of the Red Cross and the Red Crescent instruct the population in the societies of the GSO *[Gotov k sanitarnoy oborone -- "Prepared for Sanitary Defense"]* and the BGSO *[Bud' gotov k sanitarnoy oborone -- "Be Prepared for Sanitary Defense"]* (for school children) in the methods of rendering medical self-aid and mutual aid. Of the number of the "badgemen" of the GSO, the committees of the Red Cross and the Red Crescent form sanitary posts and medicosanitary teams of the self-protection groups, provide them with equipment and a constant deepening of knowledge via training instruction; instruct the sanitary teams, equip them, and provide a constant battle readiness of these sanitary teams.

The fundamental tasks of the sanitary posts and medicosanitary teams of the self-defense groups are: the rendering of medical first aid in the presence of wounds, burns, and cases of contamination with BOV's, accidents, in the presence of sudden cases of disease, and also at the time of elemental calamities (fire, flood, earthquake); aid to medical workers for the care of wounded and sick; rendering aid to the organs of public health in the struggle for cleanliness and sanitary culture in production and in living conditions, in the propaganda of measures of general and personal prophylaxis of morbidity and traumatism; in the conduct of mass sanitizing and sanitary-prophylactic measures for the prevention of infectious diseases; in the organization of spontaneous activity of the population in the matter of sanitary good construction of settled points, etc.

The sanitary post consists of 4 people: a director of the post and of 3 post personnel; besides this, a reserve of 2 to 4 persons is detailed in case of the absence of any one of the members of the post.

The equipment of the sanitary posts consists of:

- (a) means of personal protection of fighters,
- (b) objects, necessary for rendering first medical aid, and
- (c) stretchers for carrying casualties.

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In searching for casualties it is necessary to take account of the sites of location of the shelters, since most of all, the casualties will be in precisely these places.

For the most rapid search of all casualties it is necessary to explain the plan of location of various posts of the self-protection groups. The number of people in the individual dwelling rooms can be approximately determined according to the data of the teams of the protection of order and of observation. In the presence of great destruction, "sanitary rakes" should be deployed in the focus of attack in such a way that as much as possible one may go over all points where one may find casualties, devoting particular attention to entrances, stairwells, cellars, etc.

In extracting the casualties from under obstructions it is necessary to see to it that the freeing of the casualty from under the ground proceeds carefully, in order that the beams which have collapsed may not pull down the casualty. The beams should be lifted a little and put to the side. The casualty himself must be removed from the obstruction very carefully, always keeping possible fractures in mind.

Directly at the place, in the focus itself, only emergency aid is rendered. Medical first aid is rendered after the casualty has reached the closest cover or the closest therapeutic institution. In the focus it is necessary:

- (a) to stop hemorrhage;
- (b) to protect (cover) wounds with sterile material;
- (c) to provide immobility in the presence of possible bone fracture.

The future course of the injury depends to a great extent on how the emergency and medical first aid has been rendered to the casualty.

Consequently, it is necessary to quickly orient oneself, to make the correct decisions and, depending on the character and severity of the wound, to determine the sequence of aid and evacuation and establish the correct method of carrying and transportation of each casualty.

It is necessary to carefully remember the following rules:

In the presence of a wound without considerable external hemorrhage and in the presence of burns it is necessary in the focus itself to place only a dry bandage from an individual bandage packet or from other sterile material available in the sanitary bag.

Do not touch the wound; do not investigate.

Do not direct things which have gotten in the presence of a wound into the abdomen into the peritoneal cavity, but cover with sterile napkins and bandage under it.

For extinguishing phosphorus burning on the skin place a compress, abundantly moistened with a 5% solution of copper sulfate.

All persons wounded in the head, the peritoneal and thoracic cavity, and the vertebrae are taken out in the first sequence. After placing a temporary bandage on them the lightly wounded go out from the focus independently or are transported the last.

Severe casualties must be transported to therapeutic institutions on a stretcher.

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A casualty with a fracture of the vertebrae is placed on a stretcher together with the solid support on which he was located in the focus itself. He should not be moved.

When it is impossible to place the solid support on the stretcher, the casualty is sent to the therapeutic institution on this support.

In the presence of cold, the casualty must be warmly covered. In the presence of severe wounds and contusions with stopping of the respiration (in the presence of obstructions, instances of destruction, etc), it is urgently necessary to summon competent medical aid to the casualty.

In all cases of considerable hemorrhage it is necessary to provide the most rapid evacuation of the casualty to the point of medical aid (under no conditions later than 1-1/2 hours from the moment of wounding).

In the presence of hemorrhage of the lower extremity it is necessary to transport the casualty on a stretcher. In the presence of hemorrhage of the upper extremities (depending on the general state), the wounded individual is removed (supported by others) or he comes out independently.

In the presence of bone fractures it is necessary in the focus itself only to provide the injured organ with an immobile position. Bracing the bone should be conducted as quickly as possible in order not to retard the removal of the casualty from the focus of contamination.

Every attention should be directed to see to it that in moving the casualty one does not cause still more injuries to the ends of his broken bones. For this it is recommended in the presence of a fracture of the upper extremity to bandage the arm, bent at the elbow, to the body with a bandage or a kerchief, and in the presence of fracture of the bones of the leg to bandage with material at hand the broken leg to the healthy leg. In fixation of a fraction the fixing of the broken leg to the healthy leg must be done in such a way that the fastening material (handkerchief, bandage, belt, cord) may be located above and below the site of the fracture. In no case should it be placed at the site of the fracture itself.

In the presence of an open fracture it is necessary to begin the rendering of medical first aid with the protection of the wound, i.e., with the placing on it of a sterile bandage.

In establishing the sequence of evacuation from the focus it is necessary first of all to remember that casualties with fractures, complicated by arterial hemorrhage, are sent out first. In the presence of injured lower extremities, the casualties must be carried out on a stretcher, while in the presence of injuries of the upper extremities the wounded person is either carried by others, or he goes out from the focus with support from others, or independently.

When the medical first aid has been rendered to all, the sequence of carrying out is established and the methods of transport are determined (on a stretcher, in arms, carrying out by 4 together, by 2 together).

WORK IN A FOCUS OF UNSTABLE POISONOUS SUBSTANCES (NOVs)

Article 499

In the presence of the use of chemical shells with poisonous substances which by virtue of their physicochemical properties are readily

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volatilized and are not retained for a long time at the locality, the work is complicated by the fact that (1) one has to work in gas masks, and (2) one must not only bandage the wound but must also protect the casualty from the further influence of the OV.

The dimensions of the protection of the casualties from the action of OV in the focus of attack itself depends on the presence among the team members of spare gas masks. The fundamental measures in the presence of work in a focus of unstable OVs are:

- (1) curtailing further access of BOVs to the organism;
- (2) stopping of hemorrhage;
- (3) bandaging of the wounds and, if necessary, bracing of fractured bones;
- (4) carrying or leading out casualties from the focus of attack;
- (5) measures pertaining to the weakening of the action of the OV.

In the presence of the rendering of medical first aid to those contaminated in a focus of unstable OV it is necessary to take into account in the first place the character of contamination of the focus:

1. In the presence of attack with OV of a suffocating action (phosgene, diphosgene, chloropicrin, chlorine), it is necessary to first of all put a gas mask on the casualty.

If there is an unserviceable gas mask on the casualty, it is necessary to replace it with a serviceable one. In the presence of wounds emergency medical aid is rendered in the focus itself -- stopping of hemorrhage, protection of the wound, bandaging of broken extremities -- and then one proceeds to carry out the casualty from the focus.

Particularly severely contaminated individuals, i.e., those with already visible signs of contamination (asphyxia, cyanosis, loss of consciousness) are taken out first. At the same time it is necessary to carry the casualty out on a stretcher or on arms even if the casualty feels well, since the external action of phosgene (diphosgene) is not manifested at once, and each movement worsens the state and can be fatal to the casualty. Having carried out the casualty from the focus to a noncontaminated and safe place, it is necessary to take off at once the gas mask from the casualty, to warm him, to cover him warmly, to let him drink, to ensure complete quiet. It is necessary to give oxygen from an oxygen pillow in the case of a severely contaminated casualty. Artificial respiration in the case of a casualty suffering suffocation from an OV is not to be carried out.

2. In the presence of contamination with BOVs of a general poisonous action (hydrocyanic acid, carbon monoxide, arsine) it is necessary to quickly carry out the casualty from the focus of contamination, having rendered in the focus only the most urgent medical first aid.

It is necessary to carry the casualty to a safe place on a stretcher or in arms depending on the general state. If the poisoning is light, the casualty will be found fully conscious and can be moved freely; he can leave independently the focus of contamination, or obligatorily with someone accompanying. In the case of phenomena of disturbances of respiration, upon removal of the casualty from the contaminated zone, it is necessary to apply artificial respiration at once and not to terminate it until complete restoration of respiration.

3. In the presence of contamination with OVs of lachrymatory action (chloroacetophenone, bromobenzylcyanide) and with OVs which irritate the

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upper respiratory tracts (adamsite, diphenyl-cyan-arsine), it is necessary first of all to quickly put available gas masks on the casualties or to replace unserviceable ones.

As a rule, casualties from OV's of an irritant action go out from the focus independently or accompanied.

All medical first aid (with the exception of cases of wounds requiring emergency medical aid) is rendered outside the focus, in a safe place. It is necessary to wash thoroughly the eyes and nose of the casualty, to rinse the mouth and throat with a 2% solution of soda or with boiled water. It is better to wash thoroughly the eyes with an eye bath -- "undinki."

In a focus contaminated with OV's which irritate the upper respiratory tracts, as well as in the presence of all OV's containing arsenic, in addition to the phenomena of irritation of the upper respiratory tracts, there are ordinarily sharply-expressed pain sensations in the regions of the chest, jaws, gums. The poisoning is accompanied by nausea and vomiting. Phenomena of general poisoning with disturbances on the part of the nervous system can set in. For terminating the pain and the irrepressible sneezing it is necessary to let the casualty inhale an antismoke mixture (from an antichemical or a special packet). The mixture is ordinarily in ampules which are covered at their fine end with a gauze cap.

The glass of the ampules is crushed under the small gauze cap, the ampule is tilted, and the little cap moistened. The casualty smells or inhales the mixture from the little cap.

After the pain and sneezing have ceased (and sometimes several ampules are required for this) it is necessary to wash thoroughly the nasopharynx by means of a rubber bulb with a 2% solution of soda, boric acid, or simply with boiled water.

WORK IN A FOCUS OF STABLE POISONOUS SUBSTANCES (SOVs)

Article 500

In the presence of dropping bombs charged with SOVs of the mustard-gas and lewisite type, or in the presence of the spraying of these OV's from airplanes from special apparatus, foci of contamination are formed in which the OV's by virtue of their physicochemical properties are retained for a long time in the soil or on surrounding objects.

Work under these conditions is particularly complicated. One has to work not only in gas masks, but also in protective clothing, since SOVs attack not only the respiratory tracts, but also the mucous membranes and the skin.

Those rendering medical first aid in an atmosphere contaminated with SOVs should not only be completely protected against the action of SOVs, but should also observe the following measures of precaution:

(a) not to sit down and not to lie down on contaminated areas of the locality (if the battle situation does not require this);

(b) not to touch trees, shrubs, and objects suspected of contamination with an OV;

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- (c) not to drink water, if there is suspicion of contamination;
- (d) not to perform natural functions on contaminated soil.

Before entering a focus, the preparation of the gas mask and the protective clothing should be carefully checked.

The basic task of rendering aid in a focus of contamination with stable OV's consists in the following necessary steps:

- (1) quick isolation of individuals found in a focus of action of OV's;
- (2) stoppage of strong hemorrhage among the wounded;
- (3) application of protective bandages and splints on fractured extremities.

In stopping hemorrhage a tourniquet or an artery clamp is applied. In the presence of bone fracture of an extremity, a broken arm is bandaged with a kerchief to the body, while a broken leg is bandaged to the healthy leg.

In rendering medical first aid to a casualty contaminated with SOV, it is necessary in the first place to evacuate all those contaminated who do not have gas masks, since OV's of the mustard-gas and lewisite types act not only by virtue of their concentration, but the degree of contamination also depends on the duration of the action. The longer the casualty inhales contaminated air, the more severe will be the contamination.

It is first necessary to evacuate wounded who have also been exposed to mustard gas, i.e., those subjected to SOV's who simultaneously have a wound.

In the selection of a method of transport, it is necessary to proceed on the basis of the injuries present and the general state of the casualties.

One must remember that a gas mask should never be put on a casualty on whose face there are one or more drops of mustard gas (lewisite). In these cases it is necessary to unscrew the filtering canister from the gas mask and to let the casualty breathe in it without putting the mask (helmet) on him. The eyes of the casualty should be closed, while the nose is compressed with the fingers. Immediately upon carrying out the evacuation of the casualty from the focus it is necessary to treat all contaminated areas of the skin with agents of the antichemical packet. When it is impossible to conduct chemical treatment (in the absence of an antichemical packet) it is necessary to send to the washing point all those who can move independently. All litter cases who are simultaneously mustard-gas and wound casualties are sent to a stationary hospital medical-aid point which has a sanitary station.

Upon completion of the work in an SOV focus, the entire personnel should pass through treatment at a decontamination point.

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WORK IN A HOSPITAL UNDER AIR ATTACK CONDITIONS

Article 501

In each hospital located in the home of the MPVO the following should be provided:

- (a) protection of the patients against OV's used in combat, against bullets, against fragments of shells, against falling;
- (b) the dosing, the rendering of medical first aid, and further treatment to BOV casualties;
- (c) the general conditions obligatory in the presence of air attack.

For accomplishing the tasks pertaining to the protection of patients, the wards are sealed hermetically and the shelters are arranged according to the established rules and norms of planning and construction; patients and personnel are provided with the means of individual protection. All other equipment is prepared in advance according to special tables and calculations.

For the dosing and treatment of casualties substantial casualty wards are adapted and equipped according to the type of stationary-hospital medical-aid point and the wards are equipped for the treatment of casualties in the presence of air and gas attack (oxygen tents, tents with darkening of the windows, et al.).

The entire personnel passes through a special preparation for work under MPVO conditions.

An internal organization of the hospital with the disposition of forces for work under MPVO conditions is created.

An MPVO staff is organized in hospitals of 200 or more beds for working out the plan of the MPVO for hospitals and the direction of the liquidation of the consequences of the aid raid. In small hospitals one of the physicians is detailed without freeing from his primary obligation, i.e., as assistant to the chief physician for MPVO. Appointed head of the staff is an individual who has had special training for the MPVO. In the composition of the staff are included: an assistant to the chief physician for the medical part (in the place where he is), the head of the economic division, the director of the technical division, the head of the MPVO command, telephone operators, messengers, and other individuals needed as indicated by the chief physician.

Gas masks are acquired for the protection of the patients, and the wards and shelters are adapted (hermetically sealed) in accordance with the special instructions and norms established by the Ministry of Public Health USSR.

The casualty ward is equipped as an SPM [Sanitary Point of Medical Aid] according to the applicable norms and rules established; it is equipped with reserve operating rooms and dressing rooms for work under contaminated air conditions. Such are equipped with oxygen tents, and other wards are equipped for the treatment of those contaminated with OV's.

For notification of danger there is a sound and light signalling arrangement, and the necessary training of personnel in its use is conducted.

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In a threatened period a round-the-clock tour of duty is introduced for the hospital at a certain telephone (well known to the head of the medicosanitary service of the point and to the staff of the point) for receiving orders and directions which are registered in a special journal.

Upon the VT signal, in the absence of the head of the hospital (the chief physician), all the latter's functions are performed by the physician on duty.

Concerning the carrying out of measures pertaining to the protection of patients and other measures anticipated by the VT plan, each executive reports directly to the head, to whom one turns for instructions in case of difficulties.

After moving the patients into the shelters or hermetically-sealed wards, the entrance to them is closed up and access, if there is no air lock, is not permitted to anyone. If there is an air lock, only those having the permission of the head of the hospital (the chief physician of the hospital), the head of the staff, and the director of the given division, may enter.

If in the presence of the formation of a chemical focus the hermetic sealing of the hospital is not disrupted, then those found in the hermetically sealed room remain there until the end of the decontamination and go out (are led out) upon the indication of the chief physician, the duty physician, or of individuals substituting for them.

In case of disruption of the hermetic sealing of the room in the presence of destruction or of fires of the buildings occupied by the patients, the latter are immediately moved to other rooms protected against danger or are evacuated from the hospital according to an emergency plan previously worked out for each division and body of the hospital.

In the presence of the threat of repeated air raids, the patients can be left for the night in hermetically sealed rooms, but with open windows, doors, and other agents of hermetization.

For the prevention, localization, and liquidation of fires resulting from attacks, antifire measures are used: garret rooms are cleaned free of combustible materials and objects, wooden covers and parts are covered with fire-resistant compositions; sand or slag is scattered on the floor; the cleanliness and free passage on staircases is ensured and chemical fire extinguishers and boxes of dry sand are installed; the network of fire hydrants and faucets is checked and enlarged; 24-hour tours of duty are set up for posts. The conducting to the garret of a water pipe and the construction of a hermetically sealed layer on the garret overhead coverings, as well as an automatic alarm system are desirable.

For each division and ward a plan of rapid evacuation of the patients in case of fire and destruction is worked out.

Light discipline in accordance with the indications of the Main Administration of Local Antiaircraft Defense of the Ministry of Internal Affairs USSR for the darkening of cities, settled points, industrial enterprises, and transport, is worked out and accomplished.

The equipment of shelters for patients is conducted according to a calculation providing 2 m³ of air per hour per person. The shelter is provided with cots (couches) for weaker individuals and for temporary rest.

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Seats for the patients and personnel (benches, chairs, stools, etc) are given according to the number of patients and attending personnel.

A medicine chest for rendering first aid is equipped with a set of medications, chosen on the basis of the character of the patients and of a calculation of their being present for 10 hours.

The supply of food is stocked based on a period of 10 hours according to the character of the patients. Spittoons are stocked one per each 2 cots and 2 per each 5 ambulatory patients. "Powder closets" in the absence of a toilet are provided at the rate of one per 30 people.

Sanitary stretchers are taken at one per 20 people taking cover.

The patients and personnel carry means of individual antichemical protection which they bring with them into the shelter.

The entire work pertaining to the moving of patients into the gas shelter and hermetically sealed wards should be completed in the course of 5-20 minutes after the VT signal.

For treating those contaminated with BOVs it is best to use special installations for collective oxygen therapy. Serving as the basic elements of each such installation are the following: a central distribution post with oxygen cylinders, manometers showing oxygen pressure, "finimeters" for determining the quantity of oxygen left in the cylinders, and reduction valves which lower the pressure of the gas flowing out from the cylinder. By means of distribution tubes (a master tube with branches at each cot) the oxygen is led up to individual inhalators, supplied with dosimeters (according to the number of those using oxygen), in which it is finally mixed with air and whence it gets into the individual masks or nasal catheters.

For rendering first aid in the presence of asphyxia, and also for a brief treatment with oxygen (5-20-40 minutes), in a field situation, for example, in the presence of the evacuation of those contaminated, portable KI-1 and KI-3 oxygen inhalators can be used. The KI-1 weighs 6.5 kg and consists of 2 small oxygen cylinders 0.7 lit in capacity (105 lit of gaseous oxygen), a connecting T-tube, a reductor, and a doser of oxygen with a buffer bag, to which via a corrugated tube 2 masks are joined for simultaneous inhalation of oxygen by 2 contaminated individuals.

As desired, the reductor gives from 5 to 15 lit oxygen per minute. The apparatus is supplied with inhalation and exhalation valves. The inhalator is carried in a special bag.

The KI-3 is distinguished by the presence of one small cylinder 1.3 lit in capacity (195 lit of gaseous oxygen); it has a manometer. It can be used both in a medium free of OV's, and also in a medium contaminated with OV's. The period of work is 5-20 minutes for 2 contaminated individuals.

WORK OF THE SANITARY POST (MEDICOSANITARY TEAM) UPON THE AR SIGNAL

Article 502

Upon the VT signal, which is the signal with city-wide significance, there ordinarily remains a certain time (on the average from 5 to 30 minutes) for preparation for the battle work of the medicosanitary team (the sanitary post).

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Upon this signal the medicosanitary unit is obliged:

- (1) to appear quickly in full strength at the place of assembly in a bomb or gas shelter or at a previously planned assembly point;
- (2) to take apart its equipment and once more verify its serviceability; to pay particular attention to the state of the gas mask and the correctness of the fitting of the helmets or masks to the head;
- (3) to obtain from the chemical team data concerning the meteorological conditions;
- (4) to look after the preparation of the reserves of the medicosanitary team;
- (5) to establish a liaison with the neighboring sanitary posts and self-defense groups;
- (6) to report through its primary organization of the Red Cross (of the Red Crescent) to the rayon committee of the Red Cross (of the Red Crescent) or to the head of the medical section concerning its readiness.

The rapidity of the assembly of the medicosanitary team is one of the most important conditions for its successful and organized action in the focus of contamination.

Not more than 2 to 3 minutes should be expended in the assembly of the team members.

The team members, who must take good care of their gas masks, having them at hand at all times, are obliged to appear with them at every alert.

In case of the absence of any one of the unit members, the commander of the medicosanitary unit is obliged to immediately concern himself with the replacement of the absent individual with one of the reserve members.

Upon his appearance at the assembly point, each unit member should receive the equipment placed for him according to the table and should check its serviceability right there. The commander of the unit, in addition to this, should himself check the serviceability of the facilities of personal protection of each team member. If unserviceability of gas masks or of other equipment is detected, it is necessary immediately to report to the head of the self-defense group and to take measures for the replacement of the unserviceable equipment.

Article 503

Having ensured the readiness of the unit, its commander should familiarise himself with the state of meteorological conditions through the chemical unit.

First of all it is important to know the direction of the wind; in case of the use of unpleasant BOVs this determination of wind direction in advance orients the medicosanitary unit concerning the direction of exits from the focus of contamination, if it is formed on its own territory. To a certain extent it also aids in determining the danger of the flow of poisonous substances on to the territory of the team in case of the formation of a focus of contamination with BOVs in the neighborhood.

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In the absence of liaison with the chemical team the direction of the wind can be determined independently according to a weathervane on the roof of a house or according to the oscillations of a light little flag on the roof.

It is also desirable to have information concerning the temperature of the air and the velocity of the wind, since these data permit the team to determine the velocity of the penetration of poisonous substances onto its territory from neighboring foci of contamination, and also to judge concerning the velocity of ventilation of the territory contaminated with OVs.

When it is impossible to obtain this information from the chemical team, the medicosanitary team establishes them independently: the temperature of the air according to an external thermometer, and the velocity of the wind, according to a special device (anemometer).

The velocity of the wind can also be approximately determined via observations of the swaying of trees: (a) the oscillation of leaves and small branches corresponds to a velocity of air of one meter per second; (b) swaying of medium branches and the apices of trees corresponds to a velocity of the wind of 2 to 3 m per second; (c) swaying of the entire crown of the tree corresponds to a velocity of 3-4 m per second.

In order opportunely and rapidly to render first aid to all casualties, the medicosanitary team (sanitary post) should not only be able to count on its own forces, it must concern itself with the closeness to it of reserves. The closest reserve of the unit consists of the "badgemen" of the GSO who live on the territory of activity of the unit. With them through the primary committee of the Red Cross (Red Crescent), there should be established in advance a close liaison with the latter and an agreement concerning the place of assembly in the face of an alert. It is necessary that the reserves be provided with personal gas masks. If there is such an agreement, then already in the first minutes after the VT signal the medicosanitary team can be filled up with a considerable number of people who have mastered the methods of rendering first aid. It is necessary for the commander of the unit in such a case to divide up the reserves into units of 4 individuals each and to station them on their own territory in various places covered against fragments, having instructed them concerning joint action in the case of formation of a focus of attack, concerning the direction of the wind and possible exits. For rendering first aid, tourniquets, bandaging packets, kerchiefs should be issued to such reserve teams.

The commander of the medicosanitary unit is further obliged to establish liaison with the neighboring self-protection groups in order to obtain aid from them in case of necessity or in turn to aid them.

Finally, the commander of the team should report to the head of the self-protection group concerning the combat readiness of the unit and should inform the medical section or rayon committee of the Red Cross concerning this.

The entire preparation for work under combat conditions should be conducted in the very briefest period. For this all necessary measures should be conducted, simultaneously as far as possible. Of course this is possible in case only if each team member is well instructed and knows in advance his duty upon the VT signal.

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Having finished its preparation, the medicosanitary unit should actively participate in the general work of the self-protection group in providing cover for the population of the home in a shelter, observing compliance with the rules of light discipline, etc -- of course without detriment to its own direct obligations.

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